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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,621	02/12/2001	Shimon Weiss	IB-1330C	9514

24353 7590 02/26/2003

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EXAMINER

MARSCHEL, ARDIN H

ART UNIT PAPER NUMBER

1631

DATE MAILED: 02/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/781,621	WEISS ET AL.	
	Examiner	Art Unit	
	Ardin Marschel	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 156-180 is/are pending in the application.
- ~~4a) Of the above Claim(s) 2-155 have been canceled. is/are withdrawn from consideration.~~
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 156-180 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1 and 156-180 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) <u>2 sheets</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election

Applicant's election of Specie B, (nanocrystal linked to a three-dimensional structure including embedding or encapsulating of said nanocrystal and use thereof with said embedding or encapsulation) as present in claims 1 and 156-180 in Paper No. 13, filed 10/22/03, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicants pointed out the presence of generic claims which, if found allowable, should indicate the allowability of claims encompassing Species A or Species B. In response the examination will be extended to include non-elected Specie A thus encompassing generic claims, upon indication of allowability of the subject matter of Species B.

Title

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The present title includes semiconductor nanocrystal probes, a process of making, and using thereof. In contrast the present claims only are directed to semiconductor nanocrystal compounds and methods of use of said compounds for treating a material.

Abstract

The abstract of the disclosure is objected to because the abstract, filed 6/11/01, in Paper No. 5, could not be entered because a clean version was not presented on its own separate sheet of paper. Correction is required. See MPEP § 608.01(b).

Prior Art

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim 1 is rejected under 35 U.S.C. 102(b) and (e)(2) as being clearly anticipated by Gallagher et al. (P/N 5,525,377), with Kempe et al.(P/N 5,910,554) to supply evidence for poly(methyl methacrylate) in Gallagher et al. as being inherently a linking agent for affinity molecules.

Gallagher et al. discloses the semiconductor nanocrystals of the invention therein in column 1, lines 11-16. Gallagher et al. further details luminescent doped, and coated or encapsulated, nanocrystals in column 5, lines 11-39. These nanocrystals are also described in column 6, lines 1-13, as being semiconductor materials. The luminescence of the nanocrystals of Gallagher et al. is excited by ultraviolet light as described in column 3, lines 13-20, and emits in the visible as depicted in Figure 2

which anticipates the instant claim 1 limitation directed to responding to a first energy and providing a second energy. The coating or encapsulation of the nanocrystals of Gallagher et al. is a surfactant such as described in column 3, lines 15-20, specifically citing poly(methyl methacrylate). Such a surfactant coating is capable of linking affinity agents as required in instant claim 1. The additional reference to supply evidence only that said poly(methyl methacrylate) is such a linking agent is that of Kempe et al.(P/N 5,910,554) wherein crosslinking agents including poly(methyl methacrylate) are described which link affinity agents or molecules, such as antibodies or enzymes. See Kempe et al. in column 3, lines 5-17; column 5, line 38, through column 6, line 44 (specifically column 5, line 47 and column 6, lines 26-28, for citation of poly (methyl methacrylate).

Claim 1 is rejected under 35 U.S.C. 102(b) and(e)(2) as being clearly anticipated by Kossovsky et al.(P/N 5,460,831); with Alivisatos et al.(P/N 5,537,000) supplying evidence regarding semiconductor materials are disclosed in Kossovsky et al.

In column 4, lines 30-60, nanocrystals are disclosed wherein coatings are utilized for attachment of affinity agents such as DNA or RNA or proteins. Many such coatings which link affinity molecules are listed in column 24, through column 6, line 53. The nanocrystals are made up of various materials including silicon. Silicon is cited as a semiconductor for such nanocrystals in Alivisatos et al. in column 6, lines 4-13. The emission of light upon photon excitation of such materials is also cited as a characteristic in Alivisatos et al. in column 5, line 64, through column 6, line 3, as required for nanocrystals in instant claim 1.

Obviousness-type Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 156-201 of copending Application No. 10/155,918. Although the conflicting claims are not identical, they are not patentably distinct from each other because the probe semiconductor nanocrystal and methods of making it of said copending application are generic in nature thus including the elected embodiments of the semiconductor nanocrystal compound of instant claim 1.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1 and 156-180 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-50 of U.S. Patent No. 5,990,479. Although the conflicting claims are not identical, they are not

patentably distinct from each other because the luminescent semiconductor nanocrystals of the Patent are also embodiments within instant claim 1 because the Patent claims contain the same limitations with the requirement for emitting electromagnetic radiation in a narrow wavelength band which is generic and not specifically limited in said Patent claims and thus are deemed to include fluorescent as well as luminescent emission as in various claims as filed in the instant application which are dependent from instant claim 1 but now canceled, but yet disclosed in the specification as filed. Methods of forming of said nanocrystals in the Patent are included herein due to these being deemed to be indistinct from the nanocrystal subject matter. Methods of treatment utilizing said nanocrystals are commonly also claimed in the Patent as well as in the instant claim set.

Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23-26 of U.S. Patent No. 6,423,551. Although the conflicting claims are not identical, they are not patentably distinct from each other because the luminescent semiconductor nanocrystals of the Patent are also embodiments within instant claim 1 because the Patent claims contain the same limitations with the requirement for luminescent nanocrystals which is generic and not specifically limited in said Patent claims and thus are deemed to include fluorescent as well as luminescent emission as in various claims as filed in the instant application which are dependent from instant claim 1 but now canceled, but yet disclosed in the specification as filed.

Claims 1 and 155-180 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-155 of U.S. Patent No. 6,207,392. Although the conflicting claims are not identical (for instant claim 1 for embodiments directed to subject matter which was dependent from claim 1 as originally instantly filed and thus within the scope of instant claim 1), they are not patentably distinct from each other because the semiconductor nanocrystals of the Patent are also embodiments within instant claim 1 because the Patent claims contain the same limitations with the requirement for nanocrystals which is generic and not specifically limited in said Patent claims and thus are deemed to included in various claims as filed in the instant application which are dependent from instant claim 1 but now canceled, but yet disclosed in the specification as filed. Methods of treatment utilizing said nanocrystals are commonly also claimed in the Patent as well as in the instant claim set.

Statutory Double Patenting rejection

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim 1 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. 6,207,392. This is a double patenting rejection.

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703)308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703)308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703)308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (703)305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

February 23, 2003


ARDIN H. MARSCHEL
PRIMARY EXAMINER